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मानक

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“Step Out From the Old to the New”

IS 13630-13 (2006): Ceramic Tiles - Methods of test, Sampling and Basis of Acceptance, Part 13: Determination of scratch hardness of surface according to MOHS (see IS 13630 : Parts 1 to 15) [CED 5: Flooring, Wall Finishing and Roofing]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS 13630 (Part 13) : 2006

भारतीय मानक
सिरैमिक टाईलें - परीक्षण पद्धतियाँ,
नमूने लेने तथा स्वीकार्यता का आधार
(पहला पुनरीक्षण)

Indian Standard

CERAMIC TILES — METHODS OF TEST,
SAMPLING AND BASIS FOR ACCEPTANCE

(First Revision)

ICS 91.100.23

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

FOREWORD

This Indian Standard (Parts 1 to 15) (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Flooring, Wall Finishing and Roofing Sectional Committee had been approved by the Civil Engineering Division Council.

This standard was first published in various parts in 1992-93. This is the first revision; having all parts combined in one publication, of the standard in which the following major changes have been incorporated:

- a) As per the decision taken in the last meeting, the requirements of all the parts have been included in one volume and the revised standard has been brought in line with ISO 10545 (various parts).
- b) The requirements for determination of bulk density have been added in Part 2 and a few changes have been made in the requirements for determination of water absorption.
- c) A few modifications have also been made in Part 3.
- d) Requirements for determination of breaking strength have also been added in Part 6.
- e) Requirements for determination of glazing resistance tests have also been modified in Part 9.
- f) A new test for determination of impact resistance by measurement of co-efficient of restitution has been added as Part 14.
- g) IS 13711 : 1993 'Sampling and basis for acceptance' has been amalgamated with Part 15 of this standard.

In formulation of this standard considerable assistance have been derived from the following standards:

- ISO 10545-1 : 1995 Ceramic tiles — Part 1 : Sampling and basis for acceptance
- ISO 10545-2 : 1995 Ceramic tiles — Part 2 : Determination of dimensions and surface quality
- ISO 10545-3 : 1995 Ceramic tiles — Part 3 : Determination of water absorption, apparent porosity, apparent relative density and bulk density
- ISO 10545-4 : 2004 Ceramic tiles — Part 4 : Determination of modulus of rupture and breaking strength
- ISO 10545-5 : 1996 Ceramic tiles — Part 5 : Determination of impact resistance by measurement of coefficient of restitution
- ISO 10545-6 : 1995 Ceramic tiles — Part 6 : Determination of resistance to deep abrasion for unglazed tiles
- ISO 10545-7 : 1996 Ceramic tiles — Part 7 : Determination of resistance to surface abrasion for glazed tiles
- ISO 10545-8 : 1994 Ceramic tiles — Part 8 : Determination of linear thermal expansion
- ISO 10545-9 : 2004 Ceramic tiles — Part 9 : Determination of resistance to thermal shock
- ISO 10545-10 : 1995 Ceramic tiles — Part 10 : Determination of moisture expansion
- ISO 10545-11 : 1994 Ceramic tiles — Part 11 : Determination of crazing resistance for glazed tiles
- ISO 10545-12 : 1995 Ceramic tiles — Part 12 : Determination of frost resistance
- ISO 10545-13 : 1995 Ceramic tiles — Part 13 : Determination of chemical resistance
- ISO 10545-14 : 1995 Ceramic tiles — Part 14 : Determination of resistance to stains
- ISO 13006 : 1998 Ceramic tiles — Definitions, classification, characteristics and marking

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

**CERAMIC TILES — METHODS OF TEST,
SAMPLING AND BASIS FOR ACCEPTANCE**

**PART 13 DETERMINATION OF SCRATCH HARDNESS OF
SURFACE ACCORDING TO MOHS**

(First Revision)

1 SCOPE

This standard (Part 13) covers a method of test for determining the scratch hardness of the surface of all ceramic tiles.

2 PRINCIPLE

Determination of the scratch hardness on Mohs' scale by drawing minerals of defined hardness by hand over the surface.

3 TEST MATERIALS

<i>Material</i>	<i>Mohs' Hardness</i>
Talc	1
Gypsum	2
Calcite	3
Fluorspar	4
Apatite	5
Felspar	6
Quartz	7
Topaz	8
Corundum	9
Diamond	10

4 TEST SPECIMENS

A minimum of three tiles shall be tested.

5 PROCEDURE

5.1 Place the tile under test on a firm support with the glazed or proper surface uppermost.

5.2 Draw over the surface to be tested, by hand, a sharp freshly broken edge of the reference mineral applying a uniform effort such that at the end of the test, its edge or the tile surface is intact.

5.3 Repeat this procedure four times with a sharp freshly broken edge of the reference mineral.

5.4 Repeat the procedure for each tile with each mineral that is necessary to obtain a result.

5.5 Examine the tiles for scratches by naked eye, with the aid of spectacles, if usually worn.

5.6 For each tile note the mineral of highest Mohs' hardness that produce no more than one scratch

5.7 In the case of tiles having variable scratch hardness note the lowest Mohs' hardness.

6 TEST REPORT

The test report shall contain the following:

- a) Description of the tiles; and
- b) Mohs' hardness of each test specimen.

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This Indian Standard has been developed from Doc: No. CED 5 (7358 to 7372).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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